

## ABSTRACT

The present invention is a method for producing Ti or a Ti alloy through reduction of  $TiCl_4$  by Ca, which can produce the high-purity metallic Ti or high-purity Ti alloy. A molten salt containing  $CaCl_2$  and having Ca dissolved therein is held in a reactor vessel, and a metallic chloride containing  $TiCl_4$  is reacted with Ca in the molten salt to generate Ti particles or Ti alloy particles in a molten  $CaCl_2$  solution, which allows enhancement of a feed rate of  $TiCl_4$  which is of a raw material of Ti, and also allows a continuous operation. Therefore, the high-purity metallic Ti or the high-purity Ti alloy can economically be produced with high efficiency. Further, the method by the present invention eliminates the need of replenishment of expensive metallic Ca and of the operation for separately handling Ca which is highly reactive and difficult to handle.